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Deriving Management Information from Environmental Notices of Violation

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PREFACE

This report is the third volume in a series on environmental compliance management. Volume 1, *Measuring Environmental Compliance* (LMI Report PL103R1), took a broad view of the need for, and approaches to, compliance measurement. Volume 2, *Compliance Today* (LMI Report PL103R2), reviewed the notice of violation records of the Military Services as of 1990; because the data were incomplete, that report was not released for public distribution. This report considers many more notices of violation compiled by the U.S. Army after a year of emphasis on the notice of violation reporting process.

This report establishes a reporting system and framework of definitions that will enable the Army to develop environmental information from single, consistent data sets rather than continue to use the unstructured methods that characterize today's environmental data-gathering processes.

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CHAPTER 1

INTRODUCTION

One of the Army's major activities is environmental compliance: meeting or exceeding the minimal requirements of the laws and regulations of the United States and the state and local jurisdictions in which Army installations are located. The Army's expenditures on environmental compliance have increased to \$500 million annually, but over the past few years, the number of notices of violation (NOVs) issued to the Army has increased rather than diminished. (An NOV is a notice from a regulatory agency that the recipient may have violated an environmental law or regulation.)

At present, the Army's information on those violations is inadequate. The Logistics Management Institute (LMI) was asked to investigate the available data on Army violations, determine what was causing the violations, and identify the kinds of managerial initiatives that could diminish the number of violations.

We found that the current methods of collecting information on violations did not support managers' needs. Thus, our first step was to revise the existing data to make them more accessible and meaningful to Army environmental managers and their staffs. The data base we developed for categorizing and coding the types of violations has been provided to the Army for use or adaptation.

In Chapter 2, we describe the information systems now in place and the system that LMI used to gather the compliance data. In Chapter 3, we demonstrate the value of a structured data-gathering process in assessing the Army's environmental compliance situation. In Chapter 4, we present our recommendations for actions by the Army Environmental Office and supporting Army environmental staff offices. Appendix A presents the structure for our data base and Appendix B, the codes used for specific data elements.

CHAPTER 2

GATHERING THE DATA

Environmental compliance is essentially a negative process. Standards are set and penalties are levied for failure to meet them; however, no rewards are offered for exceeding standards. Thus, we measure compliance by counting the number of violations detected, and the only evidence of a satisfactory compliance program is the absence of such violations.

The fact that no violations are found on an installation, however, does not mean the installation is in compliance: it could mean simply a failure to detect them. The intent of an internal audit program as practiced by private-sector facilities and by the Army is to find and correct deficiencies before they create pollution, not merely before regulators cite them as evidence of violations of law or regulation. Thus, internal audits should provide information about compliance (as measured by infractions of regulations); to the extent that such audits fail to do so, external (regulatory) citations provide a fail-safe mechanism. However, the Army has only recently instituted large-scale self-audits under the Environmental Compliance Assessment System (ECAS), and results are not yet available. Thus, we were forced to rely on the citations issued by regulatory agencies as an indicator of the problems that need to be solved.

In this study, we focus on some of the actions that can be taken to identify and eliminate NOV's. That focus is extremely narrow and should not be interpreted as the major component of the Army compliance program. The Army compliance effort includes the cost of doing correctly all of the many things that the Army is *not* cited for each day, an effort costing approximately \$500 million each year. That compliance program is made possible through the general diligence of some 500 environmental specialists, professionals, and military personnel and through large expenditures for both operating costs and capital improvements. With hundreds of installations across the United States operating every day with inherently dangerous missions and substances, some mistakes will inevitably occur. Nonetheless, the issuance of an NOV signals an infraction of law (or a regulation with the force of law), and rightly or wrongly, many influential agencies and

organizations believe that the Army's NOV count indicates the need for a better attitude about the environment.

HOW NOTICES OF VIOLATION ARE ISSUED

Each NOV has four key milestones: the date of the inspection, the date the NOV was actually issued, the date the corrective actions (if needed) were completed, and the date the agency declared the NOV resolved.

Periodically, a regulatory agency with jurisdiction over an Army installation conducts a compliance inspection. In addition, inspections may be triggered by citizen complaints about pollution or as the result of an agency review of reports submitted by the installation itself.

When regulators initiate an inspection of an Army installation, they are escorted by a member of the installation's environmental staff. Inspections are conducted by reviewing files and observing on-site activities. Findings of deficiencies are generally recorded. Some deficiencies that can be fixed on the spot may be waived as violations at the regulator's discretion. As a rule, the regulator's initial findings are provided to the installation environmental staff in writing before the regulator departs as well as being commented upon orally at the time that the deficiencies are observed.

In some jurisdictions, regulators have the power to issue an NOV at the time of the visit. Generally, however, they must return to their agencies to obtain an agency decision about the gravity of the compliance problem before formally reporting their findings. The agency can decide to do nothing (an infrequent result), to issue a letter of concern or administrative warning, or to issue an NOV. The length of this decision process depends on the agency and the severity of the deficiencies. Environmental Protection Agency (EPA) regional offices may take from 9 to 15 months to decide whether to issue an NOV; state and local agencies generally return an NOV to the installation within 45 days. Because the NOV is a legal citation, it takes more time to process than informal expressions of concern. In some cases, a combination of events may occur: the agency may issue a letter of concern asking for explanations to be offered, for missing records to be produced, or for hasty corrective actions to be taken; then, if the installation's response is unsatisfactory, a formal NOV may be issued.

A complication is the tendency of the regulator to discover multiple deficiencies during a single inspection. In fact, we notice a "piling-on" factor: a generally successful inspection may mean one or two minor problems that can be corrected on the spot, whereas a program clearly in disarray is reviewed carefully and every possible violation is recorded. In fact, sometimes the same event may be recorded under multiple references. Many of those lesser violations can be corrected almost immediately, but quite often in such a case, resolution of a smaller number of complicated problems requires major funding. Regulatory agencies do issue resolution letters to document the completeness of specific violations within an NOV. In order to show any progress toward compliance, installations need to list each individual violation in their reporting systems; otherwise, an installation will seem to have done nothing to eliminate its NOVs when in fact it may have resolved 19 of 20 problems promptly but cannot proceed with the final one until it receives major funding.

Legal staffs at various levels of the Army review the NOV to decide whether to contest it. The installation, however, must respond within a fixed period, usually 90 days, either by providing a corrective action plan or stating the reasons that the NOV was improperly issued and an intent to contest it. Often, because of the time lag between the inspection and the issuance of the NOV, corrective action has already been taken. As soon as that corrective action is completed, the installation notifies the regulatory agency; when the letter of notification has been sent, the installation records the incident as "completed." The regulatory agency must then determine (usually through a reinspection) whether the problem has been taken care of to its satisfaction. Once it has made that determination, the agency notifies the installation that the NOV has been resolved.

At some point, the regulatory agency may agree with the installation to collect a set of unresolved issues into a single "compliance agreement" in which the installation agrees to meet specified standards or take specific actions by certain dates. When that occurs, the findings from the original violations are considered to be "administratively resolved" (because they are covered under a new document). The deficiencies, however, must be addressed, and the agency now has the opportunity to issue additional citations if the installation fails to meet the agreed-upon schedule. In general, such failure is considered a worse offense than the basic violation itself and tends to be treated more strictly.

CURRENT DATA COLLECTION PROCESSES

At present, Army installations report on all NOVs through command channels, providing detailed information on the inspection date, general deficiencies, and status of corrective actions. The data are reported in a summary form on paper and are not easily analyzed. The Army also provides OSD with summary information on total annual citations (NOVs or similar actions). Information is not provided on why these citations occurred.

The Army makes an effort to obtain copies of all NOVs from its installations. Those copies are maintained at the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA), which has the responsibility for all Army environmental data collection. At this time, USATHAMA has developed only a limited data base (really more of a receipt log) for NOVs. Although the Army does have an automated system to identify whether an environmental project was initiated in response to an NOV, the information link from the project back to any specific NOV is missing.

The Army has recently fielded the Army Compliance Tracking System (ACTS). It provides a place for installations to record the receipt of NOVs and their overall status. ACTS addresses specific deficiencies within the NOV as the lowest level of information. Since many similar infractions are represented in multiple NOVs issued to different installations, we must be able to isolate specific infractions if we wish to know how to combat each particular cause of an NOV. At present, ACTS incorporates infractions only as free text fields; to identify a specific violation, such as "operating without permit," we have to search through the data base for the specific words. If any of the search words were misspelled or simply not used in a given record or if the operator chose a different vocabulary to describe the infraction, that record could not be located.

In addition, ACTS cannot make the connection between an inspection and the receipt of a particular NOV, and ACTS cannot (at present) deal with sophisticated queries except through the structured query language (SQL). (Although SQL is an industry standard data base query language, it is not commonly known to DoD employees.) In addition, ACTS has only been in operation for 1 year, thus providing only a limited source of information. It is not connected in any way to earlier data sets

As a result of the limitations of the data collection systems described, the Army is experiencing a dearth of factual information that is amenable to analysis. Without usable information, Army environmental managers cannot determine where to apply resources to achieve rapid and cost-effective compliance.

DATA COLLECTION EFFORT

The data collection process consisted of reviewing several hundred paper reports on NOV's provided by installations to USATHAMA, recording relevant portions of those reports, and coding the data into an information system for analysis. The completeness of the Army's NOV data is much greater than was found in our earlier (1990) review; nonetheless, an unknown number of NOV's may not have been reported.

In general, the reports consisted of a copy of the NOV issue letter from the regulatory agency and installation response indicating concurrence or disagreement with the findings. Sometimes additional details of the inspections and corrective actions are provided; in many cases, these extra facts provide a better understanding of the nature of the violation.

Because regulators have wide discretion in how to record their findings, it is rare that the same language is used from one NOV to the next even where the circumstances are similar. To be useful for analysis, a consistent description of the observations is essential. Thus, as we reviewed the paper records, we developed a consistent manner of describing the violations, sometimes by aggregating numerous similar violations into a more generic description.

We synthesized the information available from the Army NOV files into a consistent data base structure. The elements are shown in Table 2-1; the data structure is shown in Appendix A. Data elements could be used only to the extent that they existed in the source data. Although we provided three data elements (violation date, reason code, and status code) not offered in ACTS, other elements are consistent with ACTS definitions, and the entire approach could easily be incorporated electronically into ACTS.

We noted earlier that regulatory agencies seek correction of individual violations as well as of the entire NOV as issued and that violations within the same NOV may require different solutions. Therefore, we designed our data base to

TABLE 2-1
DATA ELEMENTS IN PROTOTYPE
DATA BASE

Service ^a
Activity
Major command
State
Level of government
Law under which issued
Media
Notice number ^a
Notice type ^a
Date of violation
Date NOV issued ^a
Date action completed (by installation)
Date action resolved (by regulator)
Violation description ^a
Reason code
Corrective action code
Status

^aItem for reference and quality control, but has little management information value. The 12 items not so annotated are those to which we refer in the text as the "substantive" data elements.

distinguish each violation within an NOV as a separate record; thus, one NOV can require several records.

DATA INTERPRETATION

We reviewed 2,100 environmental violations reported to USATHAMA by Army installations through June 1992. However, some of the data we believe to be necessary for any meaningful analysis of environmental compliance were not provided in Army files and reports. Where possible, we interpreted the data that were available; for any final implementation of a data base system, the data files we created have been provided to the USATHAMA staff and should be reviewed by the installations to confirm the data. Data field names and brief descriptions are given in Appendix A. Detailed definitions for the reason code and corrective action code are found in Appendix B.

Interpretation problems with specific data elements are as follows:

- *Service*: No interpretation problems.
- *Activity*: It is important to use a consistent activity name.
- *Major command*: No interpretation problems.
- *State*: No interpretation problems.
- *Level of government*: On occasion, the data sheets clearly indicate that multiple NOVs were issued by Federal and state regulatory agencies for the same findings on the same inspection. In cases of obvious multiple coverage, we considered the event to have been a state inspection and recorded the violation only once.
- *Law under which issued*: In some cases, the NOV does not indicate the specific law violated, although generally that law can be inferred from the violation notice. In a few cases of multiple violations, our determination may have been faulty. In many jurisdictions, environmental laws have different names than their Federal equivalents.
- *Media*: This field is used for those cases in which the Army has established multiple media programs under a single law. This allows specific reference to those NOVs addressing that program. An example might be the effort to distinguish between "asbestos" and "PCB" issues within the Toxic Substances Control Act (TSCA).¹
- *Notice number*: The reference number assigned to the NOV by the regulatory agency.
- *Notice type*: The Army distinguishes in its data collection between NOVs, Notices of Noncompliance, Notices of Deficiency (NODs), and a variety of other forms of communication between the regulatory agency and the installations.
- *Date of violation and date NOV issued*: The date of the violation is assumed to be the date of the inspection unless otherwise noted. The issue date is the date that the NOV was signed out of the regulatory agency. Where the date of the inspection is unknown (as in the case of an NOV issued for exceeding a permitted emission level), the date of the violation is assumed to be the reporting month; if such clues are still not helpful, the date of the violation is assumed to be the issue date.

¹PCB = polychlorinated biphenyls.

- *Date action completed:* Many of the records simply noted that the NOV actions were completed without providing a date. We arbitrarily recorded such NOVs as completed by 30 June 1992.
- *Date action resolved:* "Resolved" means that both the installation and the regulatory agency consider the case closed, as evidenced by a formal letter from the agency.
- *Violation description:* No interpretation problems.
- *Reason code:* A set of standard reasons for receiving an NOV was developed after reviewing all 2,100 violations in the data base. That set includes about 50 different reason codes, some broader than others. Appendix B provides definitions for each reason code.
- *Corrective action code:* For each violation, a probable corrective action code was assigned. In making these assignments, where the installation's NOV response letters were not specific, we were subjective. For consistency in our coding, we applied several ground rules, which are apparent upon inspection of the data. Where the narrative was clearer, we by-passed those general rules and used the information reported. Again, we recommend that the Army provide the data to the installations for initial review and correction.
- *Status:* A status code shows whether the finding has been completed or resolved or has been transformed into a compliance agreement. Although the first two status codes can be derived from the earlier data fields, the last status code cannot.

REASON CODE HIERARCHY

We developed the reason codes based on our review of the existing NOV's. The process was iterative and resulted in a code structure that accommodates most media programs in the same framework with some specific codes for program-unique NOV's that seem to occur frequently or pose special concerns.

The code structure is the key to the effectiveness of the NOV data base. It provides for a consistent way of recording the hundreds of different ways in which a regulator may choose to writeup a specific finding. Using the codes permits analysis across NOV's to be performed.

The code structure is hierarchic. Table 2-2 shows the first level of the hierarchy. An examination of Appendix B, which provides the second, more detailed level, reveals that several codes at the lower level are quite similar in working but have a different intent. Thus, code no. 18, "Unauthorized use of . . ." which refers to a

permit exceedance by discharging a specific substance, differs significantly in intent from code no. 41, "Unpermitted/unauthorized/unregistered activity or equipment." It is important to work through the hierarchies so that the correct section of code is used.

TABLE 2-2
FIRST LEVEL OF REASON CODE HIERARCHY

Code	Reason
10	Exceeding permit limits
20	Technical errors
30	Human error or training deficiency
40	Operational deficiency
50	Spills and discharges
60	Inadequate facilities
70	General management failures
80	Agreement violations

GENERAL DATA PROBLEMS

The data are subject to a number of cautions, foremost among which is that they are incomplete. The data are based on those NOV's submitted to USATHAMA; even then, some files were incomplete or not available at the time of our visit. In addition, the USATHAMA staff estimates that it did not receive some 40 percent of all NOV's issued prior to FY92. Before being subjected to analysis, the data should be sent to all installations for review and correction.

In addition to incomplete NOV records, the violation listings are often incomplete. Many reports listed a few violations "among others." In the most egregious cases, the violations were summarized as, for example, "46 Resource Conservation and Recovery Act (RCRA) violations."

CONCLUSIONS ABOUT THE DATA

After reviewing the data aggregation choices made by our research team, the categorization of the NOV's appeared to be quite consistent.

The data base that we assembled from the information available is the most complete existing record of the Army inventory of NOVs as of June 1992. However, its overall "accuracy" – in terms of being a complete record of all NOVs and violations – is low, since the records are known to be incomplete. While our data base may be incomplete, it can be used to indicate certain trends and issues. In a more complete form, it could be used by Army staffs to monitor the receipt of NOVs and their causes and as a tool to drive installations toward the goal of full compliance. The data base is an extremely useful tool compared to paper records, and creating and using it were not particularly labor-intensive tasks. Our entry time for all the data was only a few days.

In the following chapter, we show some ways an effective NOV data system can produce useful management information. In the system we propose, with just 12 substantive data elements (as shown in Table 2-1), we still have 78 pairs of data from which elementary queries can be made; the elements can be combined in over 400 million different ways to analyze the data. This is, then, a potentially rich source of management information.

Nevertheless, the data records should be reviewed with caution. In many cases we had to make assumptions, especially with regard to the corrective action code. If the Army plans to make use of the data base, we recommend that the contents be reviewed by each installation to ensure that the records reflect the situation correctly.

CHAPTER 3

USING THE INFORMATION

COMPARISON WITH PRIOR DATA

At the most basic level, the rate at which NOVs are issued can be compared with experience from prior years. While the NOV rate is subject to changing regulatory intensity – indeed, to changes in the regulations themselves – it is widely used as a performance indicator in reviewing environmental compliance.

At present, time trends cannot be used with the existing data base because the records prior to 1990 are incomplete. However, that type of information is highly useful to managers. As the data base matures, these data will become more reliable.¹

Data may be analyzed at the Army level or by any of the data element categories – the law code, the major command (MACOM), etc. At the highest level, such analyses can indicate where the worst problems are. The most frequent analysis requested by Army managers is the receipt of NOVs by “law” code (referred to as “Law under which issued” in Chapter 2). Within our data system, “law” covers different names for similar laws and erases the distinction between violations of law and violations of regulation. This comparison is displayed in Table 3-1.

The distribution of NOVs by the law violation they cite is consistent with DoD-wide findings. RCRA is the source of the majority of NOVs, closely followed by water pollution violations. In terms of individual findings, RCRA citations constitute an even greater proportion of total violation citations because most air and water NOVs are one-count citations (often self-reported), while RCRA inspections encompass a wide range of procedural issues and seem to generate multiple violations.

NOTICES OF VIOLATION BY MAJOR COMMAND

The Army’s environmental program is decentralized. It places emphasis on solving systemic problems rather than on pointing out specific organizations that are

¹Because the data base needs to be updated at the installation level to ensure its accuracy, we have not provided any identification of total numbers or of installation names in this report. All figures are in percentages.

TABLE 3-1
NOVs BY LAW VIOLATED

Law violated	Percent of NOVs	Percent of findings
RCRA-C	34	60
Clean Water Act	33	20
RCRA-I	11	7
Clean Air Act	11	5
Safe Drinking Water Act	4	3
TSCA	4	3
RCRA-D	2	2
All others	<1	<1

Note: The letter added to RCRA is the subtitle under which the NOVs are issued. C = hazardous waste, I = inground tanks, and D = solid waste management.

Source: NOV information file at USATHAMA through June 1992

having problems. One good reason for that emphasis is that some organizations face more complex challenges than others. As shown in Table 3-1, RCRA-C (dealing with hazardous waste management) is by far the most heavily enforced regulatory regime. The Army Materiel Command (AMC) has the largest number of installations of any MACOM and, as the Army's industrial base, is most subject to RCRA-C enforcement. It also receives the most NOVs, as shown in Table 3-2. Thus, saying that AMC has the largest problem with RCRA-C and therefore with NOVs in general, is correct. However, suggesting that AMC is not managing its programs as effectively as other commands is not a proper conclusion from the data.

Explanations of the different NOV rates depend on the availability of effective inventory data: number of regulated sources, number of inspections, number of self-audits, etc. At present, the ability to merge our NOV data with such inventory data is limited; as ACTS matures, that capability will improve. Some commands or installations may appear to have higher violation rates simply because they capture the data more effectively. In general, we advise against attempting to draw comparisons across command lines without a specific purpose and without taking great care to address situational inequalities. We believe that a systemic approach,

TABLE 3-2
NOVs BY MACOM

MACOM	Percent of NOVs	Percent of findings
AMC	45	52
NGB	24	18
TRADOC	17	18
FORSCOM	9	8
MDW	2	2
USMA	1	2
USARPAC	1	1
All others	<1	<1

Note: NGB = National Guard Bureau; TRADOC = Training and Doctrine Command; FORSCOM = Forces Command; MDW = Military District of Washington; USMA = U.S. Military Academy; USARPAC = U.S. Army Pacific Command.

Source: NOV information file at USATHAMA through June 1992.

such as the media approach shown earlier and other analyses to be shown in the rest of this chapter, are more productive.

NOTICES OF VIOLATION BY LEVEL OF GOVERNMENT

To be effective in achieving compliance, installations must be familiar with state and local laws and regulations. If environmental staff training is provided at a centralized Army level only and focuses largely on Federal EPA regulations and procedures, or if employees receive only installation-provided on-the-job training, we can expect environmental staffs to be inadequately trained in state and local standards. NOVs will then reflect the state and local regulators' efforts to force training on the installation by emphasizing – in a negative way – the things that must be done.

One early explanation for the high number of NOVs outstanding is that NOVs processed by EPA regional offices take so much time to issue that they do not truly reflect conditions on an installation by the time they are received. EPA also requires a long time to close out an NOV from the date of the inspection. While that may be

so, relatively few NOV's are issued by EPA regional offices, as illustrated in Figure 3-1. In fact, 73 percent of the NOV's are issued by state regulatory agencies.

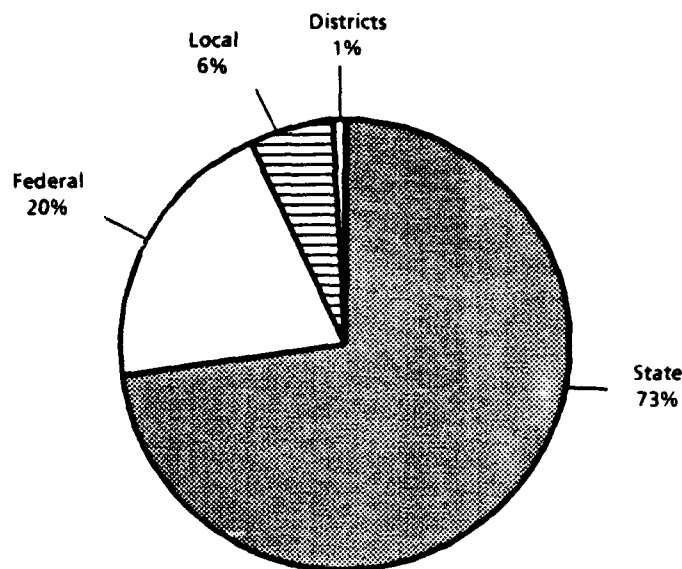


FIG. 3-1. ISSUING AGENCY

NOTICES OF VIOLATION BY STATE

Having facilities in environmentally sensitive states such as California and Florida could lead to a higher incidence of inspections and of violations per inspection, and a higher proportion of administrative violations. The importance of the data base structure we have developed for this report is that it allows the user to select multiple data elements for comparison and in so doing, it begins to give us the ability to take such conditions into account.

Some states issue a great number of NOV's as a consequence of hosting many military installations; a data base can be checked to see whether those states issue them in proportion to the installations that they have. Table 3-3 makes it clear that they do not. In addition, the number of deficiencies found must be dependent to some degree on the opportunity a regulator has to find violations. To assess that opportunity, we have to know the number of inspections conducted at each level. Information on that number of inspections would provide the perspective needed to indicate where deficiencies are the most persistent.

TABLE 3-3
NOV RATE BY STATE

Rank	State	Percent of all NOVs	Percent of all installations
1	Cal.	11	6
2	Va.	10	5
3	Utah	7	1
4	N.J.	6	10
5	Ala.	6	3
6	Tex.	5	5

Source: NOV information on file at USATHAMA through June 1992.

In an earlier study,² we found no NOVs recorded for any military installations in nine states that have some military installations. The absence of NOVs for Colorado (in particular) seems unusual because of the extensive publicity about military environmental compliance issues in Colorado. This anomaly highlights one of the basic problems in the data on compliance: are the NOVs simply not being reported, are installations in Colorado not being cited for some reason, or are the installations operating more cleanly as a result of aggressive enforcement and installation action?

FINDINGS BY REASON CODE

The analyses by MACOM, by level of government, and by state are those most frequently used by Army managers, in large degree because the existing data have limited the use of other analyses. We found, however, that those analyses provide very few useful answers. The Army needs to know *why* it receives NOVs so that it can develop strategies to stop getting them. To meet this need, we provided a method for classifying the findings themselves.

An NOV is issued under a regulatory regime with specific violations listed as its components. The reason codes (simply a structuring of similar responses) are

²LMI Report PL103R2. *Achieving Environmental Compliance, Volume 2: Compliance Today*. Brown, Douglas M. and Robert W. Salthouse. August 1991.

provided in Appendix B. Clearly, each finding has a reason; thus, for NOV's with multiple findings (as most are), no general reason can be assigned.

The reason codes that we developed can be applied against all regulatory regimes, but some apply to specific laws more than others. The violations may be considered as those that cause direct "pollution releases" (spills and discharges and exceeding permit limits), and those that do not. Although the Army considers the latter category "administrative violations," we prefer to reinforce the idea that continuing the cited behavior may eventually create pollution incidents.

As shown in Table 3-4, a few violations dominate the results. Less than 25 percent of the findings (those in Codes 10, 50, and 60) can be traced to failures of the pollution control facilities — that is, problems that will be expensive to fix. While that is good news, it can also be interpreted to mean that more than 75 percent of the deficiencies can be (and should have been) corrected by the installation without significant assistance.

TABLE 3-4
REASONS FOR ENVIRONMENTAL VIOLATIONS

Result	Code	Reason	Percent
Pollution releases	50	Spills and discharges	10
	10	Exceeding permit limits	9
Pollution risks	40	Operational deficiency	44
	70	General management failures	20
	20	Technical errors	7
	60	Inadequate facilities	5
	30	Human error or training deficiency	3
	80	Agreement violations	2
		Total	100

Although most violations are for potential (rather than actual) pollution, such violations should not be dismissed as unimportant. To do so would reflect a clear lack of understanding of the pollution management process. A case-by-case review, rather than a review of the aggregated figures with which Army staffs are familiar, reveals

clear tendencies at some installations to dismiss violations for potential pollution as unimportant.

FINDINGS BY CORRECTIVE ACTION CODE

We assigned corrective action codes to each finding based on the limited information available in the summaries provided with the data sets. The incidence of violations, in terms of the necessary corrective actions, are portrayed in Table 3-5. We attempted to capture the actual corrective action needed, rather than the immediate action. For instance, inadequate aisle space in a hazardous waste storage area can be corrected with a one-time action by moving the drums, but it really represents a general procedural failure of the installation environmental staffs. Widespread violations should be obvious to supervisors. However, a single incorrectly completed label is more likely to be a worker's error. With hundreds of drums to check, that mistake would not be as easy for a supervisor to catch; thus, we usually classified such a case as a training problem, unless the NOV indicated a systemic failure, which would be a supervisory problem.

TABLE 3-5
CORRECTIVE ACTION NEEDED

Corrective action	Percent
Procedural	44
Training and personnel	11
Capital spending	14
One-time management	15
Fix situation or equipment	8
Equipment purchase	4
Unknown	4
Total	100

Because almost 80 percent of the violations can be resolved without any capital spending or equipment purchases, we could consider these problems as merely administrative violations (using DoD's definition). Again, that would generally be unwise. The fact that such violations can be resolved through relatively inexpensive

actions, often at the local level, makes them less excusable and their recurrence unacceptable.

Several violations did require cleanup activities; however, we regard those as solutions after the fact. Cleaning up from past mistakes becomes an issue to be addressed under the Installation Restoration Program (IRP). Our categorization, following our report theme of reaching toward compliance, attempts to address the actions needed to make sure a problem does not recur.

COMPLIANCE STATUS ASSESSMENT

We have no way of determining for the scope of violations that were not detected. To determine their extent, we would have to review the internal audits to identify violations found by the auditors that were not found by regulators and compare those audits against the findings of the regulators to evaluate the thoroughness of the internal audits.

Over time, the Army plans to incorporate audit findings into the ACTS data base; when it does so, it will have a much better picture of its compliance status. However, since the audits will be conducted on a rotating basis, the audit-based conclusions will always be out of date by up to 3 years. As a result, the Army will still be forced to use NOV receipt as the basic gauge of compliance.

The Army spends \$500 million annually on environmental compliance. Over 500 people are currently employed in an effort to keep Army installations in compliance with environmental laws and regulations. Their efforts are being undermined by a continuing stream of avoidable NOVs, especially those that are caused by poor training or poor supervision.

Effective management of the efforts and funding available for environmental compliance is needed to ensure that the resources are directed where they can be most effective. That can only happen if Army environmental managers are provided with information that reflects the current situation accurately and in an accessible manner. The prototype data base, which has been delivered to USATHAMA, does achieve those requirements.

We recommend that the Army refine this system to meet managerial needs and incorporate it either directly or through the use of a data transfer module into a future release of ACTS.

ELIMINATING ADMINISTRATIVE VIOLATIONS

We found that several instances of pollution releases requiring formal (and expensive) cleanup operations were the result of a chain of recurring administrative violations. Correcting any one of them would have prevented actual pollution. For instance, at one (non-Army) military installation, over a period of several inspections, NOV's were issued for improperly stored waste, failure to identify waste, improperly prepared manifests, failure to include land disposal restriction certifications with manifests, and the use of an uncertified hauler for hazardous waste. The Military Service in that case chose to view each of these discrepancies as an administrative violation, one that caused no harm in itself; however, correction of any one of these deficiencies would have prevented hazardous waste from being deposited in a municipal landfill, which is what finally happened. In addition, the prevalence of so many administrative violations, even without any contamination incidents, is evidence of poor program management. Aggregating data at the Service level obscures these plainly visible events.

At another installation, a chain of fundamental errors in hazardous waste handling (in response to corrective actions that were being directed by the inspecting regulator) led to the eventual dismissal of the environmental staff member responsible: would that person have been dismissed had the regulator not been present, or would the violations have been shrugged off as administrative? At yet another installation, failure to take corrective action to resolve a sequence of NOV's issued month after month led to the arrest of the environmental staff member responsible.

We found several cases in which an installation reported that it had corrected the deficiencies and was waiting for the regulatory agency's approval to close out an NOV. However, reading on into the files, we found that the same or similar deficiency was found during a reinspection by the agency, often within only a few weeks of the claimed "corrected" date. From these cases, we infer that either environmental staffs were not adequately trained to recognize deficiencies or the

installation work force (not necessarily the environmental staff) simply did not take its responsibilities seriously. Again, such insight would be lost in data aggregation.

Even without the risk of pollution, administrative violations can cause unnecessary costs for the Army. In one case, a violation was issued for an "unlabeled hazardous waste drum containing what looks like water." The same installation had a history of not identifying waste samples, and even if it had identified them, the drum could have been missed. If the drum had held water and it was disposed of as hazardous waste, no harm would have resulted; however, RCRA disposal costs are an extremely expensive way to pour out rainwater. If, on the other hand, the drum had something else in it and it had been emptied out on the assumption that it contained rainwater, a spill cleanup at some level would have been necessary. In short, it seems clear that such a small administrative violation as "drum left open" is frequently the first step down a predictable path toward RCRA cleanup operations.

We recommend that the Army make every effort to eliminate "administrative" violations -- both to eliminate that category, which is exculpatory in nature, and also to eliminate the violations. Such violations are easy to detect and correct at the local level, and when they are not corrected relatively quickly, they tend to draw the attention of regulators and the public away from the general success of the installation's overall environmental program.

CHAPTER 4

RECOMMENDATIONS

We recommend that the Army Environmental Office and supporting Army environmental staff offices take these actions:

- *Develop compliance programs that focus on preventive, not corrective, action.* We have shown that most of the compliance problems can be solved at the local level, given appropriate incentives. DoD's focus in the past has been on capital construction; this study shows that improvements in training and supervision can have dramatic effects.
- *Review internal audit histories.* We have shown that many violations arose from easily correctable deficiencies. Yet, in most cases, those easy corrections were not made and the same deficiencies recurred. AEO and the MACOM staffs need to review the effectiveness of Army self-audits to see whether additional resources are needed.
- *Establish a standard set of violation descriptions.* Standardization of data is essential to effective analysis. We have provided the definitions used in this study in Appendix B. Again, we would recommend that those definitions be field-tested prior to adoption.
- *Establish a data collection system that will routinely identify the nature of the problems leading to NOVs.* A prototype data base system that we have provided to USATHAMA contains the Army data (as of June 1992) used to develop this report. We recommend that the installation staffs review the data entries for their installations to replace our assumptions with more exact data. Then the data base should be turned over to MACOMs or installations to maintain. Eventually, ACTS should be modified to accept these data.
- *Create a link between these NOVs and capital funding projects.* We noted in our earlier report that virtually no connection exists between the current inventory of environmental projects requested and NOVs issued. While some projects will not be generated by NOVs, no NOV should occur without corrective action. That connection may be made by upgrading the Army Automated Environmental Management Information System framework to make the link between the project data base (DB1383) and ACTS more dynamic.
- *Conduct manpower studies to identify needed positions.* The installation environmental offices frequently claim that their staffs are not large enough

to eliminate NOV's and perform all other required environmental tasks. Additional personnel may be needed, but today the size or existence of the personnel shortfall is unknown.

These recommendations can provide the first steps toward dramatic reductions in the number of NOV's issued to the Army each year. While tremendous efforts are being made to achieve compliance, priorities and resources must be focused in the appropriate places; otherwise, as we have seen, for the lack of a small investment, a \$500 million program can unfairly be made to look ineffective.

APPENDIX A

STRUCTURE FOR NOV DATA BASE

STRUCTURE FOR NOV DATA BASE

Field name	Type	Width	ACTS data element	Description
SERVICE	Character	1		Not used
ACTIVITY	Character	20	✓	Installation
COMMAND	Character	3	✓	MACOM
STATE	Character	2	*	State in which violation occurred
AGENCY	Character	1	✓	Issuing agency
DATEVIOL	Date	8		Date of violation
DATEISSUE	Date	8	✓	Date violation was issued
COMPLETED	Date	8	*	Date installation fixed problem
RESOLVED	Date	8	*	Date agency agreed problem was resolved
LAW	Character	9	✓	Law that was violated
VIOLATION	Character	68	✓	Finding resulting in violation
RSNCODE	Character	2		Reason code
FIXCODE	Character	1		Fix code
TYPE	Character	3		Violation type (NOV, NOD, etc.)
MEDIA	Character	3		Special subarea within "LAW"
STATUS	Character	1	*	Status of violation
NOTICE	Character	14	✓	Notice number

Notes: Items marked with "✓" are included in the Army Compliance Tracking System (ACTS) directly. Items marked with "*" are included indirectly or at the notice of violation (NOV) level only. NOD = notices of deficiency; MACOM = major command.

APPENDIX B

NOV REASON AND CORRECTIVE ACTION CODES

NOV REASON AND CORRECTIVE ACTION CODES

TABLE B-1
REASON CODE DEFINITIONS

Code	Code definition
10	Exceedances
11	Volatile organic compounds (VOCs)
12	Visible
13	SDWA and drinking water standards
14	Required Notifications
15	Inadequate levels of . . .
16	NPDES and pretreatment limits
17	Emission limits, fuel use, miscellaneous
18	Unauthorized use of . . .
19	Unreported exceedances
20	Technical work
21	Sampling, analysis, monitoring errors/failures
22	Calibration problems
23	Lab errors/failures/certification requirements
30	Personnel issues
31	Uncertified personnel
32	Inadequate supervision/certification
33	Training: inadequate/not done
34	Operator training (not environmental staff)
35	Inadequate number of personnel

Notes: SDWA = Safe Drinking Water Act; NPDES = National Pollutant Discharge Elimination System; O&M = operations and maintenance; LDR = Land Disposal Restriction; UST = underground storage tank.

TABLE B-1
REASON CODE DEFINITIONS (Continued)

Code	Code definition
40	Operations
41	Unpermitted/unauthorized/unregistered activity/equipment
42	Records/files/data submissions (incomplete/late)
43	Labeling/placard deficiencies
44	Storage/accumulation issues (time, volume)
45	General O&M failures
46	Faulty/missing equipment
47	Manifest/transport problems, LDR Certification
48	Nonlisted/restricted wastes activities
49	Inspections/engineering certification
50	Spills/leaks/discharges
51	Unauthorized discharge/disposal
52	Leak/spill from container/UST
53	Bypass or overflow
54	Contamination from spill/leak/discharge – not cleaned up
55	Procedural error causing spill or pollution
56	Not used
57	Spill, etc., not reported
60	Facilities problems
61	Facility design or capabilities
62	Monitoring/detection/control systems
63	Hazardous waste treatment, storage, or disposal
64	Underground storage tanks
70	General management
71	Reports
72	Security and safety
73	Forms, documents, plans, manuals, procedures – inadequate/incomplete (but not operating records, covered under code 42)
74	Fees not paid
75	Failure to Respond to regulatory authority notice

Notes: SDWA = Safe Drinking Water Act; NPDES = National Pollutant Discharge Elimination System; O&M = operations and maintenance; LDR = Land Disposal Restriction; UST = underground storage tank.

TABLE B-1

REASON CODE DEFINITIONS (Continued)

Code	Code definition
80	Legal agreements (and other legal obligations)
81	Not in accordance with (IAW) compliance agreement
82	Late in achieving compliance agreement milestone
83	Not IAW closure plans
84	Late with closure milestones
85	Not IAW permit/plan/schedule/other legal requirements
86	Late with permit/plan/schedule/other milestone

Notes: SDWA = Safe Drinking Water Act; NPDES = National Pollutant Discharge Elimination System; O&M = operations and maintenance; LDR = Land Disposal Restriction; UST = underground storage tank.

DETAILED DEFINITIONS OF REASON CODES

10. *EXCEEDANCES*

11. *Volatile Organic Compounds (VOCs)* – Violation of permit conditions or regulation/statute limiting VOC emissions.

12. *Visible* – Violation of opacity limits in stationary source exhaust emissions.

13. *Safe Drinking Water Act (SDWA) (Drinking Water Standards)* – Violations of primary drinking water standard, maximum contaminant levels (MCLs).

14. *Required Notifications* – Failure to provide exceedance notifications to the public or regulatory agency where required by permit or regulation/statute. This type of violation is a feature of the SDWA and requires public water system operators to notify customers of MCL violations.

15. *Inadequate levels of* – Failure to maintain mandated chemical concentrations in such facilities as public drinking water systems. This violation occurs under the SDWA when required levels of disinfectants such as chlorine are not maintained at a residual level necessary to maintain bacteriological quality requirement. It also includes cases of excessive levels where the requirement establishes an upper limit as well as a lower limit (chlorine being such a case).

16. *National Pollutant Discharge Elimination System (NPDES) and Pretreatment Limits* – violations of NPDES permit conditions or pretreatment permit requirements designated by a local, publicly-owned treatment works (POTW).

17. *Emission Limits (Misc.), Fuel Use* – Violation of contaminant level emission limits established by permit or regulation other than those already noted in this section. This category of exceedance also includes violations of limits on fuel (oil, coal, etc.) quality with respect to sulfur or other constituents set by Federal, state, and local agencies.

18. *Unauthorized Use of* – Utilization of surface coatings, thinners, etc. prohibited by permit or regulation.

19. *Unreported Exceedance* – Failure to report discharge/emission exceedance to specified regulatory agency as required per permit or regulation.

20. *TECHNICAL WORK*

21. *Sampling, Analysis, Monitoring Errors/Failures* – Failure to perform sampling, analysis, and monitoring in accordance with proscribed procedures or permit criteria for such media as solid waste, air, water, and wastewater. This reason code also includes compliance with monitoring protocol for groundwater monitoring wells, and underground storage tanks (USTs) as well as chain of custody procedures.

22. *Calibration Problems* – Failure to utilize analytical equipment calibrated according to established criteria, or failure to conduct required calibrations. Where the deficiency is a failure to maintain the required records, but the calibrations were in fact performed, use code no. 42.

23. *Lab Errors/Failures/Certification Requirements* – Improper laboratory techniques relative to preservation and analysis of samples. This reason code also includes use of an uncertified lab as well as failure of a laboratory to meet state or Federal criteria for sample handling and analysis. Inspection deficiencies relative to standard procedures used by a lab are also included in this violation reason code.

30. *PERSONNEL ISSUES*

31. *Uncertified Personnel* – Failure to use certified personnel for specific functions as required by regulatory agency(s). Examples include asbestos removal/remediation personnel or wastewater treatment system operators. Inadequate certification records should use code no. 42.

32. *Inadequate Supervision (approved/certified)* – Failure to have properly certified supervision on-site for specified operations; e.g., asbestos removal/remediation, wastewater treatment operations supervision (normally is at least one level of certification higher than supervised personnel operating the wastewater treatment plant).

33. *Training: Inadequate/Not done* – Failure to train environmental staff personnel in the performance of their duties as specified by applicable Federal/state/local requirements. This reason code also includes inadequate training, or failure to conduct annual refresher training. Lack of training records

should use code no. 42; failure to have certification training, resulting in uncertified personnel, should use code no. 31.

34. *Operator Training (Not environmental staff)* – Failure to train personnel outside of environmental staff organization. This may include Defense Reutilization and Marketing Office (DRMO) or other personnel handling hazardous wastes, or Directorate of Engineering and Housing personnel in waste or water treatment plants, landfills, etc.

35. *Inadequate Number of Personnel* – Failure to provide personnel in sufficient quantity so as to comply with permit conditions for an operation such as a sanitary landfill. State regulations may also set personnel requirements for other operations subject to environmental regulation.

40. OPERATIONS

41. *Unpermitted/Unauthorized/Unregistered Activity or Equipment* – This reason code includes such violations as failure to obtain permits for equipment or operations such as boilers, paint spray booths, asbestos removal operations, and discharge of a pollutants as well as operations not identified in permit applications such as the Resources Conservation and Recovery Act (RCRA) "A" permit. The prime focus of this reason code is on operations for which a construction and/or operating permit or registration was not obtained for a unit currently in operation. See also code no. 51.

42. *Records/Files/Data Submissions (Incomplete/Late)* – This code provides for violations concerning operating records, files, etc. not maintained in accordance with regulations, to include incomplete or late submittal. Examples of record keeping requirements subject to this code include maintaining manifest copies, land disposal restriction (LDR) certifications, operating records of open burning/open detonation (OB/OD) and other treatment/disposal operations, inspection logs, polychlorinated biphenyl (PCB) item inspection record, training records, etc. Discharge monitoring reports (DMRs) are also subject to this reason code.

43. *Labeling/Placard Deficiencies* – Included in this reason category are violations of regulations requiring labeling for containers, storage areas, and facility boundaries as well as placard deficiencies for vehicles transporting hazardous waste/materials. Violations include failure to label, improper or inaccurate labeling, no placards on hazardous waste transport vehicles, as well as illegible labeling.

44. *Storage/Accumulation Issues (Time, Volume)* – This violation code addresses violations related to storage and/or accumulation of hazardous waste. Typical examples of this violation code include storage beyond permitted volume or time limits, failure to indicate accumulation or storage start dates on containers, or storage not in accordance with recognized standards for incompatibility.

45. *General Operations and Maintenance (O&M) Failures* – This reason code concerns those violations of an operational and maintenance nature that do not readily meet criteria for classification into alternative codes. Many of these are

housekeeping items such as use of defective containers, failure to close hazardous waste (HW) containers, poor litter control at a landfill, lack of proper aisle space in storage areas (see code no. 72), as well as lack of maintenance of pollution control equipment (e.g., baghouses).

46. *Faulty/Missing Equipment* – This reason code is designated for violations resulting from inoperative, poorly designed or nonexistent equipment needed to meet permit conditions, regulatory requirements, or prevent releases of pollutants to the environment.

47. *Manifest/Transport Problem/Land Disposal Restriction (LDR) Certification* – This code provides for violations in which the manifesting and/or transport of hazardous wastes for the purpose of recycling treatment or disposal is not in accordance with regulations. It does not include record keeping issues (violation code no. 42), but it does include improper preparation of the manifest. Manifest discrepancies including LDR certification requirements as well as transport violations (vehicle not certified for HW transport) are typical of violations to be included in this category.

48. *Nonlisted/Restricted Waste Activities* – This category of violation is designated for specific hazardous waste stream activities such as generation, storage, treatment that do not appear on the installation permit, notification of hazardous waste activity forms, or permit applications. For instance, where an installation is storing a waste that is not listed on a Part "A" permit or final permit, the violation would be reason code no. 48. In addition, when an installation has failed to properly identify and treat restricted wastes as required by regulations, the same reason code would be used.

49. *Inspections/Engineering Certification* – Violations included within this code result from failure to perform inspections required in permits or by Federal/state/local regulations. This code would also be used for failure to obtain engineering certification of structural integrity/proper system installation prior to use of certain waste management units, such as tanks.

50. *SPILLS/LEAKS/DISCHARGES*. The events classified under these codes should be a significant departure from permitted standards, as opposed to minor daily exceedances envisioned in code nos. 10–19.

51. *Unauthorized discharge/disposal* – This violation code indicates that *discharges* or *disposal* of regulated substance(s) has occurred without proper permits and in violation of Federal, state, or local regulations. Examples would include discharges to "waters of the U.S." without a permit, or failure to properly dispose of materials such as PCBs. Do not include unauthorized emissions from point sources in this category (code no. 41). The essence of this code is that an entire environmental program is completely unpermitted (e.g., no air permit at all) or that specific discharge occurred. Note that code no. 41 applies to specific activities or equipment found to be without permits within a generally permitted program.

52. *Leak/Spill from Container/UST* – Leaks, spills, or discharges of hazardous substances from drums, USTs, or other storage vessels into the soil, surface water, or groundwaters are the most common violations to be coded in this category.

53. *Bypass or Overflow* – This code includes cases where the volume of waste overloads the containment system. Violations include bypass of wastewater or industrial waste treatment operations, or spills resulting from tank overflow. It also includes “upsets” – temporary failures of equipment that result in excessive discharges for a short period.

54. *Contamination from Spills/Leaks/Discharges not cleaned up* – This code is employed for violations resulting from inadequate spill cleanup or remediation as well as failure to respond to spills resulting in contamination of soil and groundwater. The original spills themselves are covered by other codes in this 50 category.

55. *Procedural Error Causing Spill or Pollution* – Violations coded in this category result from deficient operational procedures that result in soil and/or water contamination. Examples include land management activities that do not allow for erosion control measures, or open burning unit operational procedures that fail to prevent contaminant release into adjacent soil or groundwater.

56. Not used.

57. *Spills, etc., not reported* – This violation reason code primarily refers to spills, releases, etc., that are either not reported or not reported in a timely manner as defined by regulation. This code overrides all other codes in the 50 series.

60. *FACILITIES PROBLEMS*

61. *Facility design or capabilities* – This violation reason code encompasses generic design deficiencies for a variety of installation structures, systems, or resources. Included as examples are inadequate cross-connection or backflow prevention systems, inadequate supply of potable water, inefficient sewage treatment system, and other cases of inadequate capability, capacity, or containment as a result of the facility design. Hazardous waste facilities are covered separately under code no. 63.

62. *Monitoring/detection/control systems* – This reason code is to be used where systems designed to monitor environmental contamination, provide automatic detection of leaks from units such as USTs, or to control liquid levels either have not been installed or are not operating properly. Examples include failure to properly design and install groundwater monitoring wells, failure to maintain erosion control measures, inadequate tank level monitoring system, and failure to install interstitial leak detection system.

63. *Hazardous waste treatment, storage, or disposal systems* – This reason code applies to design deficiencies for *hazardous waste* treatment, storage, or disposal facilities. This can include tanks, impoundments, storage areas, oil/water separators,

etc. The most common violations for this code include lack of secondary containment, structural flaws in storage areas, lack of runoff control for waste piles, or defects in impoundment liners or berms.

64. *UST* – UST design deficiencies or operational capability issues are included in this violation reason code. Deficiencies relative to design requirements can be assessed given Federal/state/local regulations for USTs. Common findings include inadequate cathodic protection, lack of overfill protection, failure to provide vapor phase I or phase II recovery and failure to provide pressure testing. Ancillary devices, such as lead detection systems in interstitial spaces should be coded under item no. 62 (monitoring/detection/control systems). This code (64) pertains primarily to as-built or modified structural items relating to corrosion protection, tank tightness, and fill pipe location, etc.

70. GENERAL MANAGEMENT

71. *Reports* – This reason code refers to general failures to submit required reports. These include reports required by Federal/state/local agencies pertaining to RCRA, the Toxic Substances Control Act, the Clean Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This should not include individual DMRs that were sent in late or were incomplete, since these reports are sent in frequently enough to indicate an operational deficiency as opposed to general management deficiencies; occasional late or incomplete DMRs belong in reason code no. 42. However, consistently inadequate DMRs, or outright *failure* to submit DMRs, indicate management deficiencies and as such should be coded as 71. Other report violations to be classified as reason code no. 71 include failure to comply with public notification requirements, annual PCB reports, annual hazardous waste assessment reports or reports related to groundwater monitoring operations that are part of CERCLA or RCRA corrective action.

72. *Security and safety* – Violation reasons coded no. 72 primarily consist of failure to provide personal protection equipment, equipment to be utilized in response to emergencies and other items related to providing for employee safety and health as detailed in an installation contingency plan. Other common findings of violations with this code include inadequate aisle space for egress (see code no. 45), failure to post hazardous waste warning signs, failure to restrict access to installation hazardous waste management areas, and failure to coordinate emergency response plans with local agencies such as police and fire departments.

73. *Forms, documents, plans, procedures, manuals (but not operating records)* – This reason code covers the failure to submit timely or adequate documentation, plans, procedures, etc., required by regulatory agencies on environmental issues of concern that require agency authorization, oversight, or approval. These documents also describe procedures in effect at an installation designed to ensure compliance with environmental agency regulations. Forms, plans, and documents of consequence per this code include waste analysis plans, contingency plans, closure and post closure plans, part "A" and "B" permit applications, financial assurance

documentation, groundwater sampling plans, asbestos containing material project notices, waste disposal documentation, Spill Prevention and Control Contingency plans, or other documents required in order to be allowed to have a permitted program but not of themselves essential to proper operation of environmental activities. Operating records/plans violations are not to be recorded here (see code no. 42).

74. *Fees not paid* – This reason code identifies violations that are issued solely to document the failure to pay fees such as those required for permits, registration fees (USTs), or HW assessment fees.

75. *Failure to respond to regulatory agency notice* – Receipt of a violation due to lack of response to a prior violation notice that required action on the installation's part within a specified period of time.

80. *LEGAL AGREEMENTS (AND OTHER LEGAL OBLIGATIONS, PERMITS, AND PLAN REQUIREMENTS)*

81. *Not in accordance with (IAW) compliance agreement* – This reason code applies to violations that result from failure to correct a violation in accordance with the dictates of a compliance agreement.

82. *Late in achieving compliance agreement milestone* – This reason code applies to violations that result from failure to achieve a milestone per compliance agreement requirements.

83. *Not IAW closure plans* – Violations of this type occur when closure of specific operational units and structures is not completed according to closure plan specifications or requirements.

84. *Late in achieving closure plan milestone(s)* – Violations of this type occur when closure of specified operational units and structures is not completed in a timely manner in accordance with milestones in a closure plan.

85. *Not IAW permit, plan, schedule, and other legal requirements* – Violations of this type occur when activities are conducted in a manner not in accordance with a permit, plan, or schedule agreed to by an installation and regulatory agency. Exceedances and procedural violations are covered under code nos. 10 and 40; this code addresses failure to act as agreed by a legal document other than a "compliance agreement."

86. *Late in achieving permit, plan, and schedule milestone(s)* – Violations of this type occur when projects are not achieved in a timely manner in accordance with milestones in a permit, plan, or schedule agreed to by an installation and regulatory agency.

TABLE B-2
CORRECTIVE ACTION CODES

Code	Explanation
C	Capital spending
E	Equipment
F	Fix/repair/maintain
M	Manpower/personnel
P	Procedural error
S	School/certification
T	Training
W	One-time effort – usually in response to lack of documentation
Z	Unknown

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